UNIFIED CONDITIONS

BY
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT)
WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECOLOGY)
WASHINGTON STATE DEPARTMENT OF FISH AND WILDLIFE (WDFW) AND
ARMY CORPS OF ENGINEERS (CORPS)
FOR
CHANNELIZED STREAM, FISHWAY, AND CULVERT MAINTENANCE AND CULVERT REPLACEMENT ACTIVITIES

APPLICABILITY:

The conditions of this document apply to the following activities:

1. Channelized Stream Maintenance and Repair (These Unified Conditions do not apply to ditches[M1])
2. Fishway Maintenance and Repair
3. Culvert Maintenance and Repair
4. Culvert Replacement in Non-fish Bearing Streams

PURPOSE:

1. Protection of natural resources of the state of Washington.
2. Establish common environmental conditions between regulatory agencies for the subject activities that will lead to the issuance of programmatic permit coverage. The following types of programmatic coverage are expected to be developed from these Unified Conditions:
   a. WDFW will issue a 5-year General HPA for each of the four activity types.
   b. Ecology will update the Water Quality Implementing Agreement between WSDOT and Ecology to ensure consistency with these conditions.
   c. The CORPs will establish clear thresholds to determine when these activities are jurisdictional, exempt or require a permit.
3. These conditions may be utilized as a model by permitting agencies to issue permits where applicable for other state agencies, counties, or cities that conduct the activities below. [M2]

DISCLAIMER:

1. These conditions shall not be construed as authorizing or permitting the subject activities.
2. Local road maintenance agencies (State, County, City and Ports) desiring a take limit under the NOAA Fisheries Pacific Salmon 4(d) Rule, and/or section 7 take exemption (provided through the incidental take statement of a biological opinion) through the USFWS, can prepare and submit a Part 3 Application for its routine road maintenance activities through the Regional Road Maintenance ESA Program Guidelines. Interested agencies should contact Janine Johanson for an Application at (phone) 206-205-7101 or (email) janine.johanson@metroke.gov. [M3]

INTRODUCTION:

Activities covered under this agreement are scheduled maintenance activities that:

1. Are conducted on currently serviceable facilities.
2. Are conducted on previously existing and/or authorized facilities.
3. May restore a facility back to the “as-built” conditions. There is no expansion or change in use except for limited minor improvements specifically described in this document.
4. Are not conducted on facilities located within navigable waters as defined by the Corps of Engineers.

DEFINITIONS:

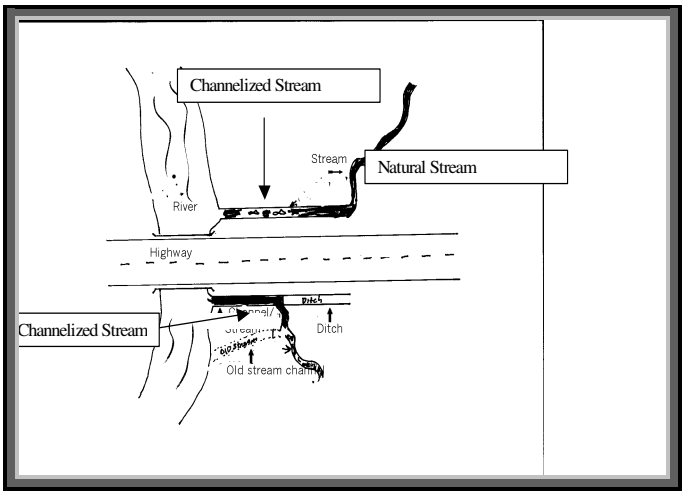
- **As-built Condition** – The original design and/or constructed features of the structure or facility including the line, depth, grade, toe of slope and cross-section, or "same as constructed/permitted."

- **Channelized stream** – A "man-made" feature that intercepts and conveys a natural stream parallel or perpendicular to the roadway structure. If a ditch conveys water through a jurisdictional wetland it will be considered a channelized stream. [M4] Channelized streams are within Corps jurisdiction; maintenance of ditches is identified as an exempt activity that does not require a Corps permit per CFR 323.4(a)(3). Channels do not include navigable waters as defined by the Corps.

- **Culvert –** Conduit or pipe used as an artificial channel under a roadway or embankment to maintain flow from a natural stream, channel or drainage ditch.

- **Debris** – Small woody material and large and small inorganic material including trash, tires and garbage etc. This definition does not include new construction waste or woody debris resulting from beaver activity. Debris does not include woody debris placed in channels for an environmentally beneficial purpose.

- **Ditch** – Man-made (i.e. not a channelized stream) conveyance system that collects, carries, holds, inhibits or diverts the movement of stormwater or groundwater from the facility or adjacent properties. (Determinations for what is a stream, channelized stream, or ditch for HPA purposes will be made by the WDFW Area Habitat Biologist). <u>These Unified Conditions do not cover ditches</u>. Channelized streams are within Corps jurisdiction; maintenance of ditches is identified as an exempt activity that does not require a Corps permit per CFR 323.4(a)(3). Diagram below depicts difference between ditch and channel.



[M5] If this permit does not apply to ditches, what does? A section should be added to make it clear how and why ditch maintenance is exempt from permits. Question the Corps authority over "all ditches", please provide the citation.

- **Embedded** – Condition in which debris or large woody material is buried by bed material exceeding 50 cubic yards.

[M6]

- **Environmental Compliance Assurance Procedure** – WSDOT communication protocol to monitor and measure compliance performance.

- **Fill Material** – Any material that replaces an aquatic area with dry land or changes the bottom elevation of a water body. Examples of fill that might be used in channel maintenance include gravel, rock, riprap, sand, wood chips, etc.

[M7]

- **Fish Bearing Stream** – Any state waters (river, creek, stream, channel), fresh, salt or estuarine, that contains any fish will be considered a fish-bearing stream. If there is a question regarding whether a stream is fish bearing or not, the local WDFW Area Habitat Biologist will make the determination.

- **Fishway Facility** – Any facility or device that is designed to enable fish to effectively pass around or through an obstruction without undue stress or delay.
- **Incidental Fallback ––** The small amount of material that may fall off of a shovel or excavator bucket back into substantially the same place from which it was lifted. Fallback occurs incidental to excavation and does not include the movement of material during grading activities.

[M8]

- **Large Woody Material (LWM)** –Trees or tree parts larger than four inches in diameter and longer than six feet in length, including rootwads (WAC 220 -110 –020 (48)). This material is located wholly or partially waterward of the ordinary high water line (OHWL).

- **Maintenance** – Activities that (a) are conducted on currently serviceable structures, facilities, and equipment; and (b) involve no expansion of or change in use of such structures, facilities, and equipment beyond those that existed previously; and (c) do not result in significant negative hydrological impacts.

    - **Scheduled Maintenance** is budgeted work, performed routinely on a regular basis. It is intended to maintain the roadway facility/element so that it substantially retains its original intended use and function.

    - **Unscheduled Maintenance** - unanticipated activities that occur due to unusual weather condition, vandalism, accident, etc. Work activities are conducted similar to routine maintenance activities except that work is unanticipated and poses an imminent danger to the existing structures or traveling public.

[M9]

- **Navigable Waters** – (Reference 33 CFR) A list of navigable waters for the state of Washington can be found at the following web link managed by the Corps – http://www.nws.usace.army.mil/reg.html

- **Ordinary High Water Line (OHWL)** – "Ordinary high water line" means the mark on the shores of all waters that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual and so long continued in ordinary years, as to mark upon the soil or vegetation a character distinct from that of the abutting upland provided that in any area where the ordinary high water line cannot be found the ordinary high water line adjoining saltwater shall be the line of mean higher high water and the ordinary high water line adjoining freshwater shall be the elevation of the mean annual flood (WAC 220-110-020 (57)).

- **Permittee** – The entity to whom the permit is issued.

- **Riprap** – Material used for bank protection that does not include waste concrete or asphalt material.

- **Sediment(s)** – Settled particulate matter located in the predominant biologically active aquatic zone, or exposed to the water column. Sediment(s) also includes settled particulate matter exposed by human activity (e.g., dredging) to the biologically active aquatic zone or to the water column. (WAC 173 -204 –200 (26)).

- **Serviceable Condition** – A structure or element of the structure that can be repaired, maintained, or replaced without the redevelopment of the whole right of way structure.

- **Waters of the State** – Waters of the state or "state waters" means all salt waters and fresh waters waterward of ordinary high water lines and within the territorial boundaries of the state – WAC 220-110-020 (85).

- **Wetted Perimeter** – The areas of a watercourse covered with water, flowing or non-flowing (WAC 220-110-020-(88)).

GENERAL CONDITIONS FOR ALL ACTIVITIES:

1. Scheduled work will be conducted in the natural dry stream channel during summer months (June 1 thru October 15). If work occurs in the wetted perimeter it will be done during the attached work windows (Attachment XX).

2. NOTIFICATION REQUIREMENT: The permittee or contractor will notify (verbal, fax, email, etc.) the WDFW Regional Habitat Program Manager (RHPM), listed in (Attachment XX), of the project start date. Notification will be received by the RHPM at least three working days prior to the start of maintenance activities. The notification will include the permittee's name, project location, starting date for work, and the control number for the Hydraulic Project Approval (HPA).

3. Ecology's Regional Water Quality Program and WSDOT Liaison shall be notified at least three working days[M10] prior to starting work in flowing water and use of a bypass system. Contact information is listed under Notification Requirements of the General Conditions of Water Quality Implementing Agreement. The notification shall include project location, work period, and project contact name and phone number.

4. ANNUAL REPORTING: The permittee will submit to the WDFW Habitat Program, 600 Capital Way N. Olympia, WA 98501, a calendar year annual report of the Drainage Maintenance and Repair projects by March 31 [W11]of the following year, or in the final year of the permit prior to the expiration date. An annual report is also required if no work was conducted under the agreement. The report will include:

    a. General: Reporting agency, address, telephone number, date of the report and time period,

    b. Summary: The control number for the HPA, total number of individual projects by region and statewide,

    c. Problem(s) encountered: Provision violation, notification, corrective action, impacts to fish life and water quality from problem. If the Environmental Compliance Assurance Procedure (ECAP) was used, what activity triggered the procedure. *[These may be highlighted and specified in this section or included in the full list of projects completed below],*

    d. Recommendations for improvement to Best Management Practices (BMP's) and mitigation [*Optional,]*

    e. List of individual projects completed: By region including water body name, road number and milepost, date of work or other method of identifying specific location.

    f. At any time if problems are experienced with implementation of these conditions, either the permittee or WDFW may request a joint review meeting.

5. HAZARDOUS SPILL AND EROSION CONTROL: The permittee will comply with the most current version of the WQIA between WSDOT and Ecology.

6. FISH KILL/ WATER QUALITY PROBLEM NOTIFICATION: If at any time, as a result of project activities, fish are observed in distress or a fish kill occurs, or water quality problems develop, immediate notification will be made to Ecology at 1-800-258-5990.

WATER QUALITY

7. Best Management Practice's will be implemented during all phases of the project to ensure that sediment-laden water does not enter waters of the state.

8. If flow conditions occur that may cause siltation during a project, work will stop until the flow subsides.

9. Water removed from within the work area will be routed to an area landward of the ordinary high water line to allow removal of fine sediment [M12]and other contaminants prior to being discharged to the waters of the state.

10. Water discharged back to the receiving water shall comply with state surface water quality standards.

11. The de-watering discharge point will be designed and operated so as not to cause erosion or scour in the stream channel, banks or vegetation.

12. All material excavated from channelized streams, fishways, or for culvert maintenance and replacement activities will be completely removed and disposed of at an upland location. No material shall be side cast into adjacent wetlands, or other waters of the state, unless authorized by WDFW for stream habitat improvement.

13. There will be no visible sheen from petroleum products in the receiving water as a result of the activity. [M13]

14. No petroleum products, hydraulic fluid, fresh cement, sediments, sediment-laden water, chemicals, or any other toxic or deleterious materials are allowed to enter or leach into waters of the state.

BYPASS PROVISIONS

[M14]

15. In the event that only hand tools (come-along, chain saw winch, etc.) are used to conduct the activity, no bypass is necessary.

16. A temporary bypass to divert flow around the work area will be in place prior to initiation of work in the wetted perimeter except as specified above (condition #15).

17. Sandbagging and hard pipe flumes or pumping will be the approved bypass method. Other methods may be utilized if a positive separation can be maintained between the work area and waters of the state.

18. In the event that maintenance work involves the use of equipment other than hand tools, temporary filter fabric, straw bale, or pea gravel-filled burlap bag check dam(s) will be installed downstream prior to starting work in flowing waters. Accumulated sediments will be removed during the project and prior to removing the check dam(s) (or temporary sediment trap) after completion of work.

[W15]

19. A sandbag revetment or similar device will be installed at the bypass inlet to divert the entire flow through the bypass.

20. A sandbag revetment or similar device will be installed at the downstream end of the bypass to prevent backwater from entering the work area.

21. In the event a hard pipe bypass is used, it will be of sufficient size to pass all flows and debris for the duration of the project.

22. Prior to releasing the water flow to the project area, all bank protection or armoring will be completed.

23. Upon completion of the project, all material used in the temporary bypass will be removed from the site and the site returned to pre-project or improved conditions.

24. Reintroduction of water to the channel will be done gradually and in stages so as to minimize the mobilization of sediments and fines into downstream waters.

FISH REMOVAL AND SCREENING
(FOR WORKING IN WETTED PERIMETER - NOT REQUIRED FOR CULVERT REPLACEMENT)

25. The permittee will capture and safely move food fish, game fish, and other fish life from the job site. The permittee will have fish exclusion, fish capture, and transportation equipment ready and on the job site. Captured fish will be immediately and safely transferred to free-flowing water downstream of the project site. The permittee may request that WDFW assist in capturing and safely moving fish life from the job site to free-flowing water, and assistance may be granted if personnel are available.

26. Any device used for diverting water from a fish-bearing stream will be equipped with a fish guard to prevent passage of fish into the diversion device pursuant to RCW 75.20.040 and RCW 77.16.220. The pump intake will be screened with 3/32-inch mesh to prevent fish from entering the system. The screened intake will consist of a facility with enough surface area to ensure that the velocity through the screen is less than 0.4 feet per

second. Screen maintenance will be adequate to prevent injury or entrapment to juvenile fish and the screen will remain in place whenever water is withdrawn from the stream through the pump intake.

EQUIPMENT LIMITATIONS

27. Machinery and equipment used during maintenance work will be serviced, fueled, and maintained on uplands in order to prevent contamination to surface waters. When practicable, fueling equipment and vehicles should be more than 200 feet away from waters of the state (except small equipment necessary as part of the BMP's for the project e.g. water pumps). Fueling areas will be provided with adequate spill containment. [Use spill kit, containment system when fueling equipment].

28. Equipment used for a project will be free of external petroleum-based products while working around the channel. Accumulation of soils or debris will be removed from the drive mechanisms (wheels, tires, tracks, etc.) and undercarriage of equipment prior to its working below the OHWL. Equipment will be checked daily for leaks and any necessary repairs will be completed prior to commencing work activities along the channel.

[M16]

REVEGETATION PROVISIONS

29. Alteration or disturbance of the bank and bank vegetation will be limited to that necessary to construct the project. Within seven calendar days of project completion, all disturbed areas will be protected from erosion using vegetation or other BMP's. Within the first planting season, the banks, including riprap areas, will be revegetated with native or other approved woody species. Vegetative cuttings will be planted at a maximum interval of three feet (on center) and maintained as necessary for three years to ensure 80 percent survival.

30. Existing riparian vegetation outside of the work area will not be removed or disturbed.

31. Care will be used when accessing the site to minimize the disturbance of riparian vegetation. Riparian vegetation will be straddled with heavy equipment or be pruned as necessary without damaging the roots, to allow the operation of heavy equipment.

CHANNELIZED STREAM MAINTENANCE AND REPAIR

Work within a channelized stream is subject to regulatory authority and falls under jurisdictional authority of the Corps, Ecology and WDFW.

Work Area Description – Channelized stream maintenance and repair activities occur within the road Right of Way (ROW). Figures 1 and 2 provide a typical illustration of a channel and ROW structure:

Figure 1 (a): Profile of Roadway and Channel Structures Work Area Depicting Sediment

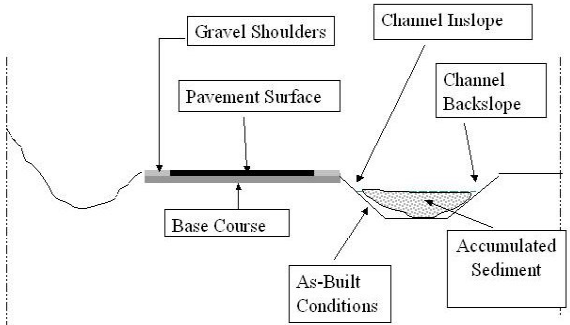
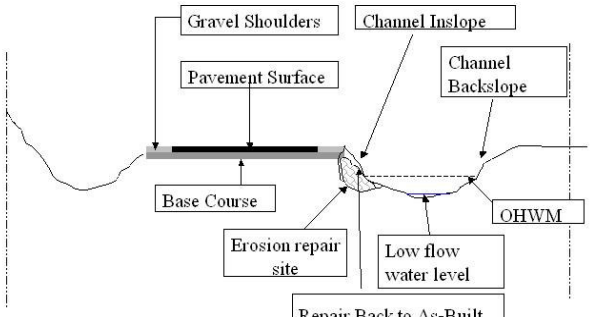


Figure 2 (b): Profile of Roadway and Channel Structures Work Area Depicting Erosion Repair



Channelized streams may require cleaning when standing water is on the road shoulder, shoulder erosion occurs, blockages occur, [M17]or if deposits fill greater than 50 percent of the capacity of the channel, as measured by depth of accumulations or by narrowing of the width. Work will be scheduled during the summer months either "in the dry" or during work windows identified by WDFW. Work will be isolated from the flowing water. This work has the potential to result in temporary increases in turbidity and/or short term disturbance to fish habitat.

Method of Work and Impacts:

a) Removal of accumulated sediment and/or vegetation. Removal of sediment is limited to that which restores the as-built conditions. The quantity of sediment removed will not exceed 50 cubic yards per work site per year. Removal of root systems of trees and shrubs may be necessary to restore width of channels. Trees and shrubs will occupy any channelized stream system given time, and their root systems often need to be removed to restore the original geometry. Sediment removal generally includes the practice of skip ditching, which leaves some vegetated sections within the channel line that provides for continued water quality treatment. Trees or shrubs that block flow may be trimmed, and the trimmings may be left in place or removed. Removal of sediment will not typically involve dragging or pushing of channel bed material. In some case, methods may involve pushing or dragging of sediments, which may invoke Corps permit jurisdiction (see Corps jurisdictional threshold below). After the removal of sediment, the disturbed areas that are dry will be seeded to establish vegetation. Sediment is typically removed to a maintenance facility to be disposed of or recycled.

b) Erosion repair/protection. This work will not exceed as-built conditions. Bioengineering techniques (consistent with Integrated Streambank Protection Guidelines (ISPG)) will be considered first in project design. The work could also include placement of riprap to the minimum necessary to temporarily stabilize the structure and preserve the traveling public's safety. Permanent repairs may require individual permits.

c) Removal of debris, trash, garbage, yard waste and other material. This work does not include the removal of embedded Large Woody Material (LWM). Material is removed to a maintenance facility for disposal or reuse.

d) Removal of slough or rock fall and/or other slide material to restore ROW structure to the as-built conditions (clean up will be limited to the ROW structure in most cases). Material removed and taken to a maintenance facility for disposal or reuse.

e) Reshaping an existing channel with gentler slopes. Material is removed and taken to a maintenance facility for disposal or reuse to enhance motorist safety and improve water quality

Equipment Operation and Impacts:

A variety of equipment may be used which includes, but is not limited to: dump trucks, vactor truck, front-end loader, motor grader, belt loader, excavator, hydraulic/power shovel, clam bucket, backhoe, mower with a brush arm and hand tools. Heavy equipment is generally operated from the shoulder of the existing roadway. Heavy equipment drive mechanisms will not operate within the wetted perimeter unless separate written approval (HPA) is provided by WDFW. When heavy equipment operates in the channel temporary increases in turbidity may result. Equipment is usually serviced (e.g. maintained and repaired) at maintenance sheds. Spill kits will be available on site.

Corps Jurisdiction:

For the purposes of this programmatic agreement:

1. Work within channels that are non-navigable waters of the U.S. would not trigger Corps' jurisdiction if there is no discharge of dredged or fill material. A discharge would not occur provided that removal of accumulated sediment and/or vegetation, removal of trash/garbage, yard waste and debris, and removal of slough, rock fall and/or other slide material is conducted in a way that:
   i) Lifts accumulated sediments from the channel and does not allow sediments or other materials to be discharged into the channelized stream, other than incidental fall back,
   ii) Does not use equipment or methods that would drag or push sediments or other items,
   iii) Is limited to restoring the channelized stream to an as-built condition, and
   iv) Does not remove the root systems of trees and shrubs below the OHWL outside the previously permitted channelized stream shape or the as-built condition or within the boundaries of a wetland.

2. Work within jurisdictional channelized streams may be exempt under 33 CFR 323.4(a)(2) provided that erosion repair/protection work is conducted such that:
   i) The work is limited to restoring the channelized stream to an as-built condition (no change to the scope and size of the original fill design), and
   ii) There is no modification to the character of the original fill design (i.e. no change in materials – e.g. scoured gravel bed materials cannot be replaced with riprap).
   iii) Temporary structures, such as sandbags, necessary to allow exempt work to be conducted in isolation from flowing waters are also exempt.

3. Reshaping an existing channelized stream, as described above, requires preconstruction notification of the Corps under Nationwide Permit #41 if more than 500 linear feet of the channelized stream, as defined in this agreement, would be reshaped.

ACTIVITY SPECIFIC CONDITIONS:

EQUIPMENT LIMITATIONS

1. Equipment used for a project will operate stationed on the roadway, shoulder or bank.

2. Equipment used for a project may operate below the OHWL, provided the drive mechanisms (wheels, tracks, tires, etc.) will not enter or operate below the OHWL unless the channelized stream is dry or a bypass is in place.

3. There will be no visible sheen from petroleum products in the receiving water as a result of channelized stream maintenance and repair activities.

4. Equipment crossings [M18]of the channelized stream will not be conducted. .

LARGE WOODY MATERIAL (LWM) AND DEBRIS REMOVAL

5. If LWM must be removed, it will be repositioned below the OHWL downstream of the channelized stream to provide stable, functional fish habitat. If anchoring repositioned LWM is necessary, only non-invasive streambed or stream bank anchoring techniques may be used (e.g. pinning with rebar, rock drilling and cable etc.). Streambed or stream bank excavation, or removal of embedded material is not authorized. Streambed or stream bank excavation or removal of embedded LWM will require separate, written approval from WDFW and the Corps if fill is involved (e.g. methods of anchoring).

6. If, due to compelling safety or habitat concerns (i.e. in eddies or in areas where bank erosion is occurring), LWM cannot be repositioned within the channelized stream downstream of the structure or released to float downstream, said LWM will be set aside in a location that ensures availability for use in future fish habitat/restoration projects by agencies or other entities. In this case, prior consultation with the local AHB is required before removing the LWM.[W19]

7. Debris will be removed gradually and in a controlled manner to prevent a sudden release of any impounded water, logs, other material or sediments which may result in downstream bed and bank degradation, sedimentation or flooding. Slowly removing portions of the debris and allowing the water level to go down slowly, before removing additional portions of the debris, may accomplish this.

8. LWM removal will be conducted with equipment stationed on the bank, road shoulder, or bridge[M20].

9. Smaller limb and bark debris that is removed from LWM will be disposed of so it will not re-enter the waters of the state.

10. LWM removal or repositioning will be accomplished in a manner that minimizes the release of sediment or debris downstream. This activity will not exceed the water quality standards for turbidity.

SEDIMENT REMOVAL

11. No more than **50 cubic yards** of material per project per year will be removed without separate written approval from WDFW.

12. Sediment removal will not be conducted in fish spawning areas.[W21]

13. Sediment removal will be accomplished by starting at the upstream end of the project boundary and working downstream.

14. Sediment removal will be limited to restoring the channelized stream to as-built condition with a gradual taper of the ground line to meet the native stream channelized stream.

15. At the end of the maintenance activity, the channelized stream will contain no pits, potholes, or depressions that may trap fish as a result of fluctuation in water levels.[M22]

EROSION REPAIR/PROTECTION

16. Encroachment of riprap or other repairs into waters of the state will be held to an absolute minimum as described in ISPG. The work will not exceed that necessary to stabilize the site and will in no case exceed as-built conditions.

17. Riprap will be clean and durable, free from dirt, sand, clay and rock fines and will be installed to withstand the 100-year flow flood event.

18. Riprap will be placed using equipment operating from the roadbed, shoulder, bank, or bridge.

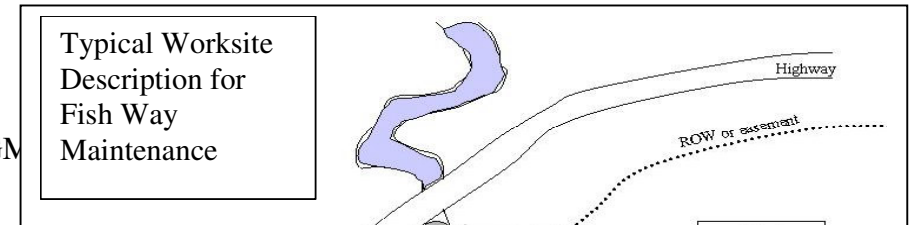
19. A toe of rock will be installed prior to placement of the riprap.

20. Filter fabric will be installed prior to placement of riprap.[M23]

FISHWAY MAINTENANCE AND REPAIR

The purpose for maintaining these structures is to maintain flow and provide fish passage back to as-built standards or serviceable condition.

Work Area Description – Fishway structures are ancillary structures to channelized streams, culverts, or streams that help provide fish passage. [M24]These structures include all engineered and man-made features including, but not limited to, flumes with baffles, ladders, and weirs including the channelized streambed and banks from the upstream to the downstream end of the built project. Figure 3 below provides an example of a typical fishway work area.



WSDOT conducts repairs on fishway structures as directed or recommended by WDFW Technical Applications Division (TAPPS) program. Maintenance and repair may include the following types of actions:

Access Road and Impacts – Access roads may be required to allow equipment to access fishway facility work areas that are not adjacent to existing roadways or travel paths. Work may include the removal of material from previously disturbed areas. The width ranges from 8 to 20 feet depending on the piece of equipment needed for the job and the terrain (i.e. cut and fill areas). This agreement does not cover access roads that require permit approval for aquatic resource permits including impacts to wetlands.

During construction of access roads BMP's will be in place to minimize the delivery of sediment into waters of the state. Access roads will be constructed of clean materials, suitable to provide erosion protection during site work. Disturbed areas are to be stabilized during and after construction until the appropriate levels of natural plant growth have been established to stabilize the site. Access roads will be closed to vehicle access so that the creek or stream is no longer accessible to non-maintenance vehicles. Construction impacts may result in the partial or complete removal of vegetation within the access road location. All material not used for balanced road construction (i.e. cut and fill) will be removed to a maintenance facility to be disposed of or reused.

Method of Work and Impacts:
Work does not include the placement of new structures or expansion beyond as-built conditions except for minor improvements as discussed below. Work may include the following:

a. Removal of debris and sediment – This work is accomplished using hand tools, and where appropriate, heavy equipment. Removal of sediment is limited to as-built conditions. Removal of sediment will not involve dragging or pushing of channelized stream bed material. After work is completed debris is to be removed to a facility to be disposed of or reused. Work may result in temporary increase in turbidity and/or disturbance to fish habitat.
b. Repair and/or replacement of damaged stop logs, guides and entrance/exit gates – These structures are associated with weir/pool, vertical slot or pool chute type fishways. After work is completed, debris is to be removed to a facility to be disposed of or reused. Work may result in a temporary increase in turbidity and/or disturbance to fish habitat.
c. Repair or replace dislodged baffles, damaged metal trash racks, guides, intake screens, walkways, ladders and grates normally associated with weir/pool or vertical slot fishways. After repairs are completed waste material is to be removed from the site for disposal.
d. Repair or replace damaged concrete weirs/walls associated with formal concrete fishways. After repairs are completed waste material is to be removed from the site for disposal.
e. Repair or replace damaged log controls including the filter fabric, ballast and associated riprap on log control type fishways. After work is completed debris is to be removed to a facility to be disposed of or reused. Work may result in temporary increase in turbidity and/or disturbance to fish habitat.

Equipment Operation and Impacts:

A variety of equipment may be used which includes, but not limited to: dump trucks, vactor truck, front-end loader, motor grader, belt loader, excavator, hydraulic/power shovel, clam bucket, backhoe, mower with a brush arm, and hand tools. Equipment is not operated within a channelized stream unless authorized by WDFW. Any equipment operation within a channelized stream will not result in dragging or pushing of channelized streambed material. Equipment is usually serviced at maintenance sheds. Spill kits will be available at the project site.

Corps Jurisdiction:
Note: The following thresholds only apply to non-navigable channelized streams as defined in this document.

1. Removal of debris and sediment would not trigger Corps' jurisdiction if there is no discharge of dredged or fill material. A discharge would not occur provided that the work is conducted in a way that:
   i.) Lifts accumulated sediments or debris from the stream, channelized stream or fish passage structure and does not allow sediments or other materials to be discharged into the stream, channelized stream or fishway, other than incidental fall back.
   ii) Does not use equipment or methods that would drag or push sediments or other items,
   iii) Is limited to restoring the fishway to an as-built condition, and
   iv) Does not remove the root systems of trees and shrubs below the OHWL or within the boundaries of a wetland.

2. Work that is structural in nature (e.g. repair of metal trash racks), may not trigger Corps' jurisdiction provided that there is no discharge of fill material. Work that involves installing ballast, rip rap, or backfilling around logs and other structures below the OHWL with gravel, dirt or other material would trigger Corps' jurisdiction. Pouring concrete into areas located below the OHWL would also trigger Corps' jurisdiction.

3. If Corps' jurisdiction is triggered, the work may be exempt under 33 CFR 323.4(a)(2) if the fishway is part of the transportation structure. The Corps defines the transportation structure in the following way:
   i) Fish passage structures located within culverts under roadways are considered to be part of the "transportation structure." All other fish passage structures are not considered to be part of the "transportation structure." [M25]
   ii) Maintenance work on the transportation structure may be exempt provided that:
      a) The work is limited to restoring the fish passageway to an as-built condition (no change to the scope and size of the original design), and
      b) There is no modification to the character of the original design (i.e. no change in materials – e.g. scoured gravel bed materials cannot be replaced with concrete).
      c) Temporary structures necessary to allow exempt work to be conducted in isolation from flowing waters are also exempt.

4. Repair or replacement of damaged portions of fishways that are not part of the transportation structure and that will result in the placement of fill below the OHWL, will require a Corps' permit.

5. Temporary by-passes required for <u>non-exempt</u> activities may also require a Corps' permit. If an activity requires Corps notification, then any temporary structures necessary for the activity must also be reviewed by the Corps.

<u>ACTIVITY SPECIFIC CONDITIONS:</u>

WATER QUALITY

1. Fresh concrete or concrete byproducts will not be allowed to enter the stream at any time during this project. All forms used for concrete will be completely sealed to prevent the possibility of fresh concrete from getting into the stream.

2. All concrete will be allowed to cure a minimum of seven (7) days before contact with water. The waters of the state will not come in contact with the concrete structure while the concrete is curing. Any dewatering required from a contained area with curing concrete will be discharged to land with no possible entry to surface waters.

EQUIPMENT LIMITATIONS

3. Where appropriate, and based upon site conditions and maintenance activity to be conducted, work will be accomplished by hand or with hand tools such as chain saws and chain saw or vehicle winches. If the use of heavy equipment is necessary equipment will be stationed on and operate from the top of the bank or roadway. When absolutely necessary, equipment may operate stationed on dry gravel bars at low stream flow.

4. Equipment crossings to gain access for work will be on roadway structures or at established fords only. Equipment crossings at established fords will be kept to the minimum necessary to accomplish the project.

5. Equipment used for this project may operate below the ordinary high water line, provided the drive mechanisms (wheels, tracks, tires, etc.) will not enter or operate below the OHWL unless the channelized stream is dry or a bypass is in place (except fords).

6. Equipment crossings of the channelized stream (except fords) will not be conducted without separate written approval from WDFW.

DEBRIS/SEDIMENT REMOVAL

7. No more than **50 cubic yards** of material per project per year will be removed without separate written approval from WDFW.

8. If LWM must be removed, it will be repositioned below the OHWL downstream of the channelized stream to provide stable, functional fish habitat. If anchoring repositioned LWM is necessary, only non-invasive streambed or stream bank anchoring techniques, such as pinning with rebar, rock drilling and cable etc. Streambed or stream bank excavation, or removal of embedded material is not authorized. Streambed or stream bank excavation or removal of embedded LWM will require separate, written approval from WDFW and the Corps if fill is involved (e.g. methods of anchoring).

9. If, due to compelling safety or habitat concerns (i.e. in eddies or in areas where bank erosion is occurring), LWM cannot be repositioned within the channelized stream downstream of the structure or released to float downstream, said LWM will be set aside in a location that ensures availability for use in future fish habitat/restoration projects by agencies or other entities. In this case, prior consultation with the local AHB is required before removing the LWM.

10. Structures that tend to accumulate debris will be inspected and debris removal and/or repositioning will be frequent enough to prevent the build up of large debris jams. The frequency of inspection and debris removal and/or repositioning will depend upon the site and weather conditions.

STRUCTURAL MAINTENANCE (STRUCTURE REPAIR/REPLACEMENT)

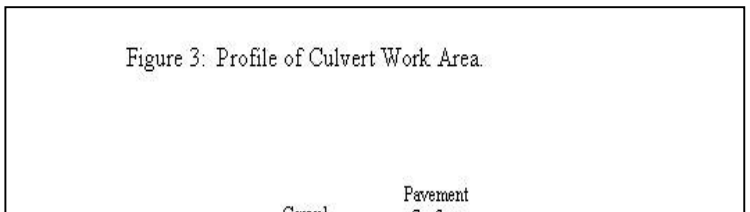
11. The repair or replacement of concrete weirs, sills, walls, log or rock controls and stop logs and guides will be allowed. Repair or replacement will be to return the structure to its originally installed design.

12. All lumber to be used in the repair of the fishway (including log controls) will not contain creosote, pentachlorophenol, or other preservatives or substances that are toxic to fish. All lumber used will comply with treated wood standards identified in the (Western Wood Preservers Institute Guidelines – http://www.deq.state.mi.us/documents/deq-lwm-nfip-WoodPreservativeBMPManualFinalCopy.pdf).

CULVERT MAINTENANCE AND REPAIR

Work Area Description - A culvert is a conduit or pipe used as an artificial channelized stream under a roadway or embankment to maintain flow from a natural stream or stream channelized stream. All work is limited to as-built conditions, and within the ROW as depicted in the following diagram of one type of ROW structure:

Figure 3: Profile of Culvert Work Area.



Culverts are inspected on a scheduled basis for sediment build up and water flow to ensure good operating condition. Culverts with 50 percent or more constriction are restored back to as-built conditions. In conducting this maintenance work consideration will be given to ensuring adequate sediment remains to allow fish passage. [M26]Culverts are also checked for erosion around the inlet and outlet. In some cases erosion protection repairs must be made to protect the road structure, culvert or stream.

Work is scheduled during the summer months either "in the dry", or with a bypass during work windows identified by WDFW.

Method of Work and Impacts:

f) Removal of sediment, vegetation and debris - Removal of sediment is limited to that which restores the as-built conditions of the culvert, inlet or outlet structures. The quantity of sediment removed will be based on the site-specific characteristics of each culvert project and the maintenance needed. Sediment removed from job site (i.e. culvert, inlet, and outlet) will not exceed 50 cubic yards for any one project per year without separate written approval from WDFW. Removal of sediment may also involve the removal of any vegetation established within it, but does not include the root systems of trees or shrubs outside the as-built condition of the channelized stream. Trees or shrubs that block flow may be trimmed at ground line left onsite or removed. Sediment and debris will be removed to a maintenance facility to be disposed of or recycled. The method(s) of removing sediment, vegetation and debris may include use of hand tools (e.g. shovels), vactor truck, backhoe, dragline, or flushing with high-pressure water. This work has the potential to result in temporary increases in turbidity and/or disturbance to fish habitat.

g) Erosion repair/protection – This work will not exceed as-built conditions. Bioengineering techniques will be considered first in project design. The work could also include placement of riprap to HPA requirements or minimum necessary to stabilize the structure and ensure the traveling public safety. In some cases, erosion repair may require replacement or realignment of the culvert structure. These repairs are covered in Section 4 of this agreement. This work has the potential to result in temporary increases in turbidity and/or impacts to fish habitat.

h) Repair of culvert structures – This work may include the repair of dented or crushed ends of culverts. The method of work may include setting up jacks and cutting and replacement of culvert ends. In addition, concrete "grouting" work may be necessary to repair damaged culvert ends. This work has the potential to result in temporary increases in turbidity and/or impacts to fish habitat.

i) Sieving/slip lining culverts – This method of repair uses a lining that is inserted into the existing culvert to stabilize the structure until replacement can be funded. Typically, a winch cable is inserted though the existing line which is then attached to the front of the new liner. The new liner pipe is then reconnected to the system. The void between old and new pipes may be filled. Methods of filling the void may include placement of expanding foam or concrete "grout" by "grouting" (placement of concrete). This work has the potential to result in temporary impacts to water quality and/or fish habitat.

j) Debris removal/relocation work for WSDOT bridges is covered under a separate general HPA issued to WSDOT.

k) Removal of beaver dams within WSDOT Right of Way is covered under a separate general HPA issued to WSDOT.

Equipment Operation and Impacts:

A variety of equipment may be used which includes but is not limited to dump trucks, vactor truck, front-end loader, motor grader, belt loader, track hoe, hydraulic/power shovel, clam bucket, backhoe, mower with a brush arm and hand tools. Heavy equipment is generally operated from the shoulder of the existing roadway. Heavy equipment drive mechanisms will not operate within a channelized stream unless authorized by WDFW. When heavy equipment operates in the wetted perimeter, temporary increases in turbidity may result. Any equipment operation within a channelized stream will not result in dragging or pushing of channelized stream bed material. Equipment is usually serviced at maintenance sheds. Spill kits will be available on site.

Corps Jurisdiction:

1. Removal of debris and sediment would not trigger Corps' jurisdiction if there is no discharge of dredged or fill material. A discharge would not occur provided that the work is conducted in a way that:
   i.) Lifts accumulated sediments from the channelized stream or culvert and does not allow sediments or other materials to be discharged into the channelized stream, other than incidental fall back.
   ii) Does not use equipment or methods that would drag or push sediments or other items,
   iii) Is limited to restoring the culvert and channelized stream to an as-built condition, and
   iv) Does not remove the root systems of trees and shrubs below the OHWL outside of the as-built condition of the channelized stream or within the boundaries of a wetland.

2. Erosion repair/protection and culvert repair may be exempt under 33 CFR 323.4(a)(2) provided that the work is conducted such that:
   i) The work is limited to restoring the culvert and channelized stream to an as-built condition (no change to the scope and size of the original fill design – e.g. the culvert may not be lengthened), and
   ii) There is no modification to the character of the original fill design (i.e. there may be no change in materials – e.g. scoured gravel bed materials cannot be replaced with riprap). See Section 4, culvert replacement for additional information on culvert work.
   iii) Temporary structures necessary to allow exempt work to be conducted in isolation from flowing waters are also exempt.
   iv) Backfilling jacking holes in wetlands or below the OHWL at the completion of a repair project would trigger Corps' jurisdiction and would not be exempt from the requirement for a permit.
   v) Grouting that does not change the original footprint of the culvert would be exempt and would not require a permit.

3. Temporary bypasses required for non-exempt activities may also require a Corps permit. If an activity requires Corps notification, then any temporary structures necessary for the activity must also be reviewed by the Corps.

ACTIVITY SPECIFIC CONDITIONS

EQUIPMENT LIMITATIONS

1. Where appropriate and based upon site conditions and maintenance activity to be conducted, work will be accomplished by hand or with hand tools such as chain saws or vehicle winches. If the use of heavy equipment is necessary, equipment will be stationed on and operate from the top of the bank or roadway. When absolutely necessary, equipment may operate stationed on dry gravel bars at low stream flow.

2. Equipment crossings to gain access for work will be on roadway structures.

3. Equipment used for this project may operate below the ordinary high water line, provided the drive mechanisms (wheels, tracks, tires, etc.) will not enter or operate below the ordinary high water line unless the channelized stream is dry or a bypass is in place.

LARGE WOODY MATERIAL AND DEBRIS REMOVAL

4. Structures that tend to accumulate debris and LWM will be inspected and LWM/debris removal and/or repositioning will be frequent enough to prevent the build up of large debris jams. The frequency of inspection and LWM/debris removal and/or repositioning will depend upon the site and weather conditions.

5. Embedded (see definitions) debris or LWM will not be removed. A separate individual HPA is required to remove embedded material.
6. Debris will be removed gradually and in a controlled manner to prevent a sudden release of any impounded water, bed, logs, other material or sediments which may result in downstream bed and bank degradation, sedimentation or flooding. Slowly removing portions of the debris and allowing the water level to go down slowly, before removing additional portions of the debris, may accomplish this.

7. If LWM must be removed, it will be repositioned below the OHWL downstream of the channelized stream to provide stable, functional fish habitat. If anchoring repositioned LWM is necessary, only non-invasive streambed or stream bank anchoring techniques, such as pinning with rebar, rock drilling and cable etc., may be used. Streambed or stream bank excavation, or removal of embedded material is not authorized. Streambed or stream bank excavation or removal of embedded LWM will require separate, written approval from WDFW and the Corps if fill is involved (e.g. methods of anchoring).

8. If, due to compelling safety or habitat concerns (i.e. in eddies or in areas where bank erosion is occurring), LWM cannot be repositioned within the channelized stream downstream of the structure or released to float downstream, said LWM will be set aside in a location that ensures availability for use in future fish habitat/restoration projects by agencies or other entities. In this case, prior consultation with the local AHB is required before removing the LWM.

9. LWM will be conducted with equipment stationed on the bank, shoulder or bridge.

10. Smaller limb and bark debris that is removed from LWM will be disposed of so it will not re-enter the stream.

11. Large woody material removal or repositioning will be accomplished in a manner, which minimizes the release of sediment or debris downstream. This activity will not exceed the water quality standards for turbidity.

SEDIMENT REMOVAL PROVISIONS

12. No more than **50 cubic yards** of material per project (within the culvert and 25 feet downstream of the outlet or 25 feet upstream of the inlet) per year will be removed without separate written approval from WDFW.

13. Sediment removal will be limited to restoring the inlet of the culvert to as-built condition with a gradual taper of the ground line to meet the native stream channelized stream.

14. At the end of the maintenance activity, the work area will contain no pits, or potholes, or depressions that may trap fish as a result of fluctuation in water levels.

15. Sediment removal will be accomplished by starting at the upstream end of the project boundary and working downstream.

16. Sediment removal will not be conducted in fish spawning areas.

17. Removal of material will not result in destabilization of the streambed or banks. Installation of grade control structures will require a separate written HPA.

CULVERT REPAIR PROVISIONS

18. Culverts may be repaired to as-built conditions. In the event that such repairs create or perpetuate a fish passage blockage in violation of Chapter 77.20.060 RCW, separate written approval from the local Area Habitat Biologist is required before conducting the repair work.

19. Culverts will be repaired so as to maintain structural integrity to the 100-year peak flow with consideration of the debris likely to be encountered.

20. Fill associated with the culvert will be protected from erosion to the 100-year peak flow.

21. Encroachment of riprap or other repairs into waters of the state will be held to an absolute minimum.

22. Riprap will be clean and durable, free from dirt, sand, clay and rock fines and will be installed to withstand the 100 year flow flood event.
23. Riprap will be placed using equipment operating from the roadbed, shoulder, or bank.

24. A toe of rock will be installed prior to placement of the riprap.

25. Filter fabric will be installed prior to placement of riprap.

26. Fresh concrete or concrete by-products will not be allowed to enter the stream at any time during this project. All forms used for concrete will be completely sealed to prevent the possibility of fresh concrete from getting into the stream.

27. All concrete will be allowed to cure a minimum of seven (7) days before contact with water. The waters of the state will not come in contact with the concrete structure while the concrete is curing. Any dewatering required from a contained area with curing concrete will be discharged to land with no possible entry to waters of the state.

CULVERT REPLACEMENT (NON-FISH BEARING STREAMS ONLY)

Work Area Description – The work area for culvert replacement is the same as culvert maintenance description and figure #4 in section 3 of this agreement.

Culverts are considered deficient and in need of replacement when:
1. Culvert maintenance activities (covered in Section 3) cannot bring the culvert back to "as-built" or serviceable condition, or
2. Any end is crushed or deformed beyond repair, or the volume of outflow is reduced by 50 percent or greater, or
3. The pipe is separated 1" or more, rebar is showing, or damaged in a way (cracked or crushed) that the function of the culvert is causing significant damage to the roadway prism or adjacent drainage channelized stream.

Work is scheduled during the summer months in the dry or with stream bypass in place during work windows identified by WDFW.

Method of Work and Impacts:

Replacement of undersized culverts or realignment of culverts - These culverts will be excavated, replaced, and fill materials/roadways replaced and stabilized. Culvert replacement may include increasing the diameter and length of the culvert and realignment of the culvert. In some instances when replacements of a culvert in a deep fill area under the roadway is necessary the new culvert maybe installed by boring or horizontal jacking next to the existing. [W27]This can save major excavation and have less impact on the surrounding terrain. This work has the potential to result in temporary increases in turbidity and/or [RJB28]impacts to fish habitat. Environmental benefits may result from reducing erosion potential, allowing adequate hydraulic capacity, and providing better passage for streambed material.

Equipment Operation and Impacts:

A variety of equipment may be used which includes, but is not limited to: dump trucks, front-end loader, motor grader, belt loader, excavator, hydraulic/power shovel, clam bucket, backhoe, mower with a brush arm and hand tools. Heavy equipment is generally operated from the shoulder of the existing roadway. Heavy equipment drive mechanisms will not operate within a channelized stream unless authorized by WDFW. When heavy equipment operates in the channelized stream temporary increases in turbidity may result. Any equipment operation within a channelized stream will not result in dragging or pushing of channelized streambed material. Equipment is usually serviced at maintenance sheds. Spill kits will be available at the project site.

Corps Jurisdiction:

1. Culvert replacement may be exempt under 33 CFR 323.4(a)(2) provided that the work is conducted such that:
   i) There is no change to the scope and size of the original fill design, and
   ii) There is no modification to the character of the original fill design (i.e. there may be no change in materials).

2. These conditions are generally accomplished by ensuring that:
   i) The culvert length is not increased,
   ii) There is no change in the alignment of the culvert (though the diameter of the culvert may be increased),
   iii) There is no placement of new riprap around the mouth of the culvert or backfilling of any material beyond the original footprint of the original culvert and road bed.

3. Minor re-alignments of culverts may be exempt. The Corps should be notified with specific design proposals to determine the need for a permit.

4. Culvert shape and diameter may be altered without triggering the need for a permit – e.g. a round pipe culvert may be converted to a three-sided box culvert with a gravel bottom.

5. Rock and grade control structures may be placed in the bottom of culverts (inside the culvert or within the footprint of the culvert) without triggering the need for a permit.

6. Sieving/slip lining culverts and grouting between the old and new pipes may be exempt provided that the conditions in Item #2 are met.

7. Temporary structures necessary to allow exempt work to be conducted in isolation from flowing waters are also exempt.

8. Temporary by-passes required for non-exempt activities may also require a Corps' permit. If an activity requires Corps notification, then any temporary structures necessary for the activity must also be reviewed by the Corps.

9. Backfilling jacking holes in wetlands or below the OHWL at the completion of a repair/replacement project would trigger Corps' jurisdiction and would not be exempt from the requirement for a permit.

ACTIVITY SPECIFIC CONDITIONS

EQUIPMENT LIMITATIONS

1. Equipment will be stationed on and operate from the top of the bank, roadway or within the roadway prism. When absolutely necessary, equipment may operate stationed on dry gravel bars at low stream flow.

2. Equipment crossings to gain access for work will be on roadway structures.

3. Equipment used for this project may operate below the ordinary high water line, provided the drive mechanisms (wheels, tracks, tires, etc.) will not enter or operate below the ordinary high water line unless the channelized stream is dry or a bypass is in place.

4. Equipment crossings of the channelized stream will not be conducted.

CULVERT REPLACEMENT PROVISIONS

5. The culvert to be replaced will be removed in the dry.

6. The new culvert will be laid in essentially the same location as the previous culvert.

7. Culverts, inlets, outlets and associated fill will be installed to maintain structural integrity to the 100-year peak flow with consideration of the debris likely to be encountered.

8. Culverts will be installed and maintained to avoid inlet scouring and to prevent erosion of stream banks downstream of the project.

9. The stream crossings will consist of a single barrel.

10. Encroachment of riprap or other repairs into waters of the state will be held to an absolute minimum.

11. Riprap will be clean and durable, free from dirt, sand, clay and rock fines and will be installed to withstand the 100 year flow flood event

12. Riprap will be placed using equipment operating from the road bed, shoulder, bank, bridge or road way prism.

13. A toe of rock will be installed prior to placement of the riprap.

14. Filter fabric will be installed prior to placement of riprap.

15. Fresh concrete or concrete by-products will not be allowed to enter the stream at any time during this project. All forms used for concrete will be completely sealed to prevent the possibility of fresh concrete from getting into the stream.

16. All concrete will be allowed to cure a minimum of seven (7) days before contact with water. The waters of the state will not come in contact with the concrete structure while the concrete is curing. Any dewatering required from a contained area with curing concrete will be discharged to land with no possible entry to surface waters